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How global scale images inform our thinking about mantle dynamics

Earthquakes, tsunamis and volcanic eruptions are dramatic consequences of plate tectonics which remind us of the powerful internal forces that drive the motions of plates at the surface of the earth. In order to understand flow patterns in the earth's mantle, seismic imaging, which uses seismic waves generated by natural earthquakes to illuminate the earth's internal structure, is a continually improving tool for mapping regions of upwelling and downwelling flow, or plumes and slabs. Romanowicz will demonstrate how seismic imaging has advanced with high performance computing.

About Romanowicz

Romanowicz holds a doctoral degree in geophysics from the University of Paris 7. As a researcher at the Centre national de la recherche scientifique, she developed GEOSCOPE, a then state-of-the-art global network of digital seismic stations for the study of earthquakes and the structure of the earth's interior. In 1991, she was appointed director of the Berkeley Seismological Laboratory and professor in the Department of Earth and Planetary Science at UC Berkeley. During her directorship, Romanowicz helped establish a joint real time earthquake notification system for northern California. She was elected to the US National Academy of Sciences in 2005 and was appointed chair of Physics of the Earth Interior at Collège de France in 2011. She currently splits her time between the Collège de France and UC Berkeley.